ASTRACT OF THE DISCLOSURE

Disclosed is an optical subscriber network system for performing bidirectional transmission/reception of digital broadcast signals and Internet signals. The optical subscriber network system of the invention includes a server-end bidirectional optical transmitter and a subscriber-end bidirectional optical receiver. The server-end bidirectional optical transmitter includes: a first semiconductor laser for transmitting digital broadcast signals; a second semiconductor laser for transmitting downstream Internet data; a server-end photodiode for receiving upstream Internet data; a BPF (Band Pass Filter) mounted in front of the service-end photodiode, for selecting the upstream Internet data only; and, a multi-branch optical waveguide element for selecting I/O (Input/Output) data. The subscriber-end bidirectional optical receiver includes a subscriber-end multi-branch optical waveguide element for receiving/selecting data transmitted from the server-end bidirectional optical transmitter; a first photodiode for receiving digital broadcast data transmitted from the server-end bidirectional optical transmitter; a second photodiode for receiving downstream Internet data transmitted from the server-end bidirectional optical transmitter; and, a subscriber-end semiconductor laser for the upstream Internet data.